Pneumatic Scissor Lift Installation & Service Manual

Model #
Serial #

Part # 42448

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RESPONSIBILITIES OF OWNERS & USERS

Inspection and Maintenance: The lift shall be inspected and maintained in proper working order in accordance with this manual and safe operating practices.

Removal From Service: Any lift not in safe operating condition shall be removed from service until it is repaired to the original manufacturer's standards.

Repairs: All repairs shall be made by authorized personnel in conformance with the manufacturer's instructions.

Operators: Only trained and authorized personnel shall be permitted to operate the lift. They must understand to be alert to safety hazards during all operations.

Before Operation: Before using the lift, the operator shall have:

1. Read and understood the manufacturer's operating instructions and safety rules and been trained by a qualified person.

2. Inspected the lift for proper operation and condition. Any suspect item shall be carefully examined and a determination made by a qualified person as to whether it constitutes a safety hazard. All unsafe items shall be corrected before further use of the lift.

During Operation: The lift shall be used only in accordance with its intended use and within the manufacturer's limitations and safety rules:

1. Do not overload the lift. Please note that the lift has a capacity tag attached to it. Do not remove the tag. Be sure that no operator ever exceeds the capacities shown on the tag or they may cause damage to the lift or injure personnel.

2. Insure that all safety devices are operational and in place.

3. Insure that all personnel near operating lifts understand to stand back from operating lifts so that no body parts can be pinched by the mechanism or platform and any items that may fall off the lift will not strike them.

Modifications or Alterations: Modifications or alterations of industrial scissor lifts shall be made in conformance with all applicable provisions of scissor lift manufacturer's proposed ANSI standards and shall be at least as safe as the equipment was before modification. These changes shall also satisfy recommendations of the original equipment manufacturer for the particular application of the lift.

WARNING!!! **NO RIDERS!!!**

WARNING!!!

To avoid personal injury, never go under the lift platform until the load is removed and the scissor mechanism is securely blocked in the UP position to prevent accidental lowering of the lift.

WARNING!!!

To avoid personal injury, stand clear of scissor leg mechanism while lift is in motion.

WARNING!!!

Where it is desired to raise the base of the lift to achieve a greater collapsed height, the footprint of the base frame must be fully supported. Failure to do so will damage the lift. This lift was designed to be a floor mount.

WARNING!!!

DO NOT install lifts in pits unless they have bevel toe guards or other approved toe protection. A shear point can exist causing serious toe injury or severance.

Safety Maintenance Bar Procedure

WARNING!!!

ALWAYS use the safety bars for any service or maintenance. NEVER go under or reach under the lift unless both safety bars are securely in place and the power to the unit has been disconnected to prevent others from operating the lift. NEVER use the safety bars with a load on the platform.

CAUTION

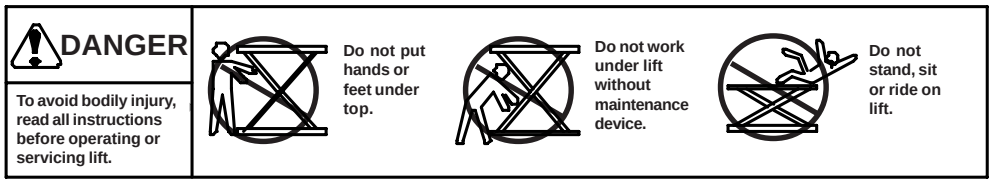
Never use the lift unless the safety bars are properly stored or damage may occur to the equipment.

1. Remove the safety bars from their storage position.
2. Raise the lift to full travel, and place the safety bar. Make sure the safety bar is in place.
3. Once BOTH safety bars are in place, slowly lower the lift until the safety bars rest against the end of the baseframe. Visually inspect both safety bars to insure they are secure.
4. To disengage the safety bars raise the lift to move the safety bars and make sure lift operates correctly. Store the safety bars in the original position.

***SAFETY WARNING*: REPLACE ALL SAFETY DEVICES, GUARDS, AND GUARDING PRIOR TO EQUIPMENT START UP.**

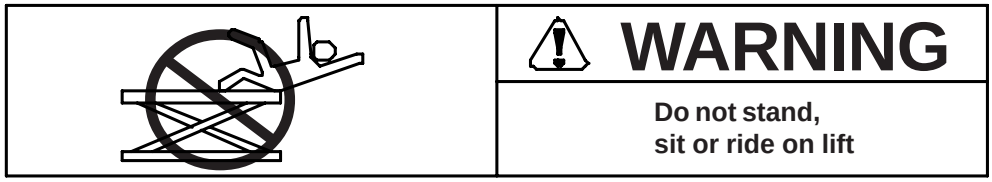
SAFETY LABELS-SCISSOR LIFT

1


DANGER
To avoid bodily injury, read all instructions before operating or servicing lift.
Do not put hands or feet under top.
Do not work under lift without maintenance device.
Do not stand, sit or ride on lift.

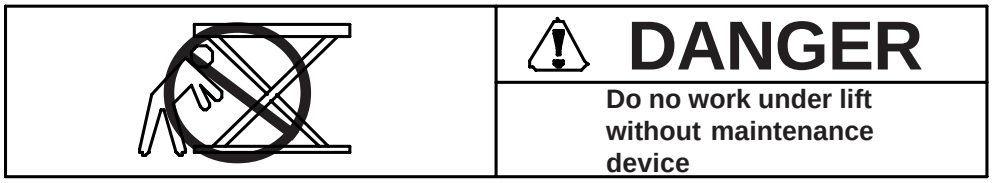
#113611 - A-4 (6 7/8 x 1 1/4) or B-4 (17 x 2)
Placed on the side edges of the lift table platform to warn personnel to read operating instructions before using lift table, and to warn of possible bodily injury hazards.

2



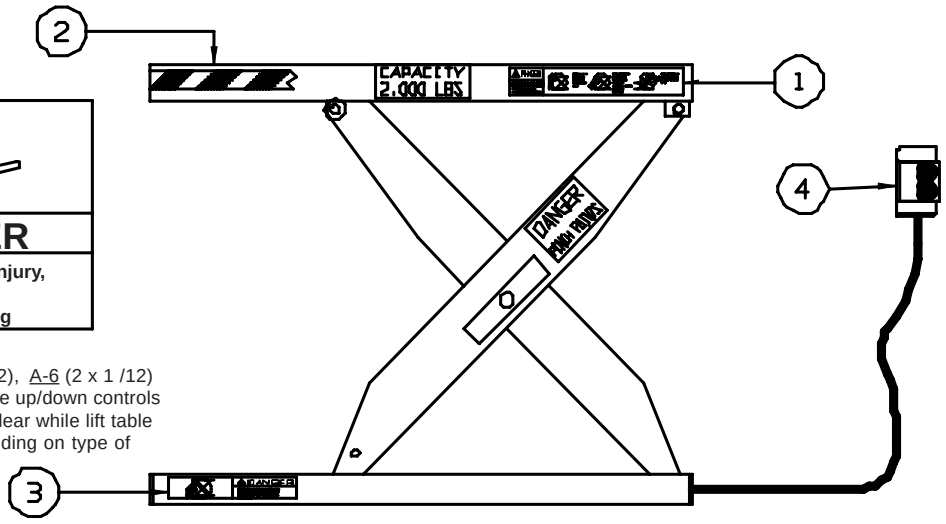
#113609 - A-1 (6 7/8 x 1 1/4) or B-1 (8" x 2)
Placed on the top surface of the lift table platform to warn personnel against riding on scissor lifts that are not designed for such use.

3



#113608 - A-3 (6 7/8 x 1 1/4) or B-3 (8 x 2)
Placed on the base frame adjacent to each maintenance device to warn service personnel to engage maintenance device before working on, and particularly under, lift table.

4



#113610 - A-5 (6 7/8 x 1 1/4), B-5 (8 x 2), A-6 (2 x 1 /12)
Place on or near the control station where up/down controls are located to warn personnel to stand clear while lift table is in operation. Location can vary depending on type of control station used.

Anchored Pneumatic Scissor Lift Tables

NOTE: Check your local codes before permanently installing pneumatic scissor lift tables, as the process may be subject to local codes, rules and regulations, permits, or inspections.

1. Scissor lifts are shipped on either skids or pallets. With slings placed around the base frame or lift bottom, remove the lift from the skid. Be careful not to damage any of the frame structure. If equipped with lifting tabs (tandem lifts or pit mounted lifts) attach a chain spreader and raise the lift from a center position.

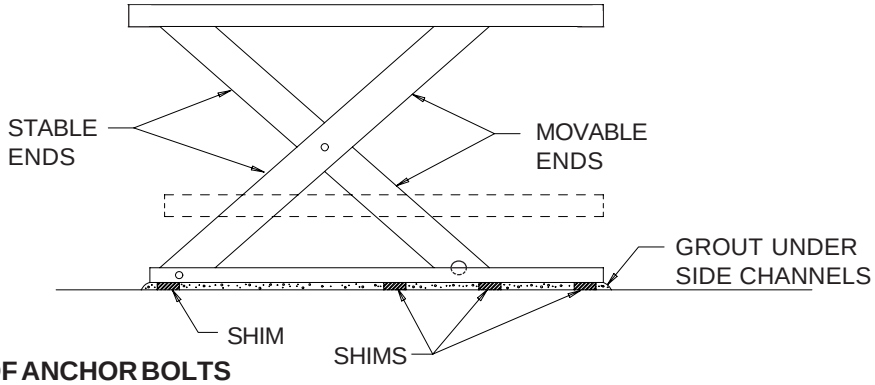
2. Level the scissor lift and place solid shims under the frame base as detailed in the drawing below. Grout as required. If shimming and grout will not be used, the floor must be level within 1/8 in. over 5 ft. of length and width.

3. Where anchor clips have been provided, the bolt fit is close to restrict shifting. Careful location of the anchor bolts is required with special consideration being given to the frame and platform.

4. The control pedestal is connected to the lift via an air hose at the factory. Locate the pedestal at a convenient location and lag to the floor.

5 . Instruct user(s) in the proper operation of the lift, safety precautions, and equipment capacity. Supply maintenance personnel with this service manual.

Figure 1



INSTALLATION OF ANCHOR BOLTS

1. Position lift according to above instructions. Drill holes in concrete the same diameter as anchor bolts, using anchor clip holes as guides. Drill holes sufficiently deep.

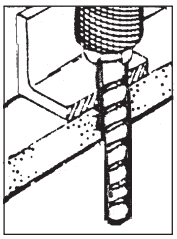
2. With nut and washer on anchor bolts, drive anchor bolts into holes so that a minimum of six to seven threads are below the top of the anchor clips.

3. Tighten the nuts while making sure enough force is used to spread anchor bolt wedges. Use three or four turns past finger-tightening as a guide.

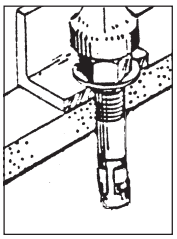
4. After the scissor lift has been aligned, leveled and shimmed, and all anchor bolts installed, pour 1 in. of grout under the entire base frame. Tighten nuts or anchor bolts after the grout has set and cured.

Figure 2

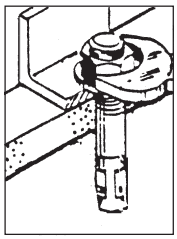
1.



2.



3.

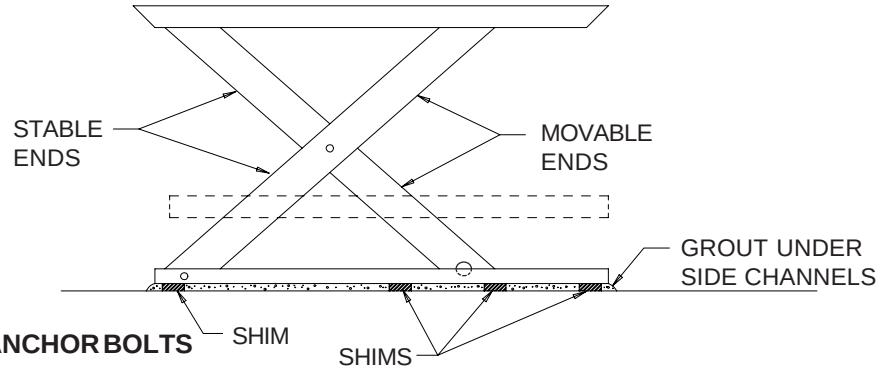


Anchored Pit Mounted Pneumatic Scissor Lift Tables

NOTE: Check your local codes before permanently installing pneumatic scissor lift tables, as the process may be subject to local codes, rules and regulations, permits, or inspections.

1. Scissor lifts are shipped on either skids or pallets. With slings placed around the base frame or lift bottom, remove the lift from the skid. Be careful not to damage any of the frame structure. If equipped with lifting tabs (tandem lifts or pit mounted lifts) attach a chain spreader and raise the lift from a center position.
2. Level the scissor lift and place solid shims under the frame base as detailed in the drawing below. Grout as required. If shimming and grout will not be used, the floor must be level within 1/8 in. over 5 ft. of length and width. Removal of the lift top may be required to access the anchor clips.
3. Where anchor clips have been provided, the bolt fit is close to restrict shifting. Careful location of the anchor bolts is required with special consideration being given to the frame and platform.
4. The control pedestal is connected to the lift via an air hose at the factory. Locate the pedestal at a convenient location and lag to the floor.
5. Instruct user(s) in the proper operation of the lift, safety precautions, and equipment capacity. Supply maintenance personnel with this service manual.

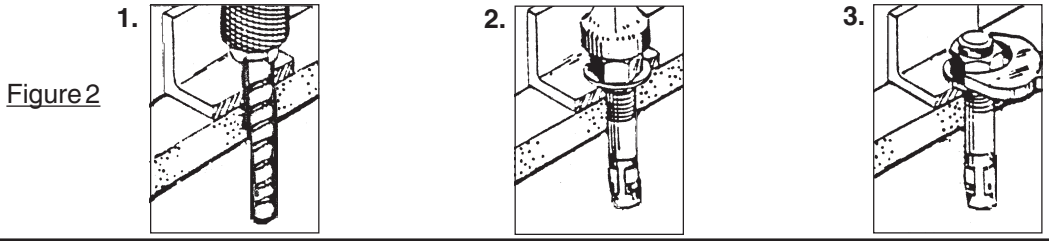
Figure 1



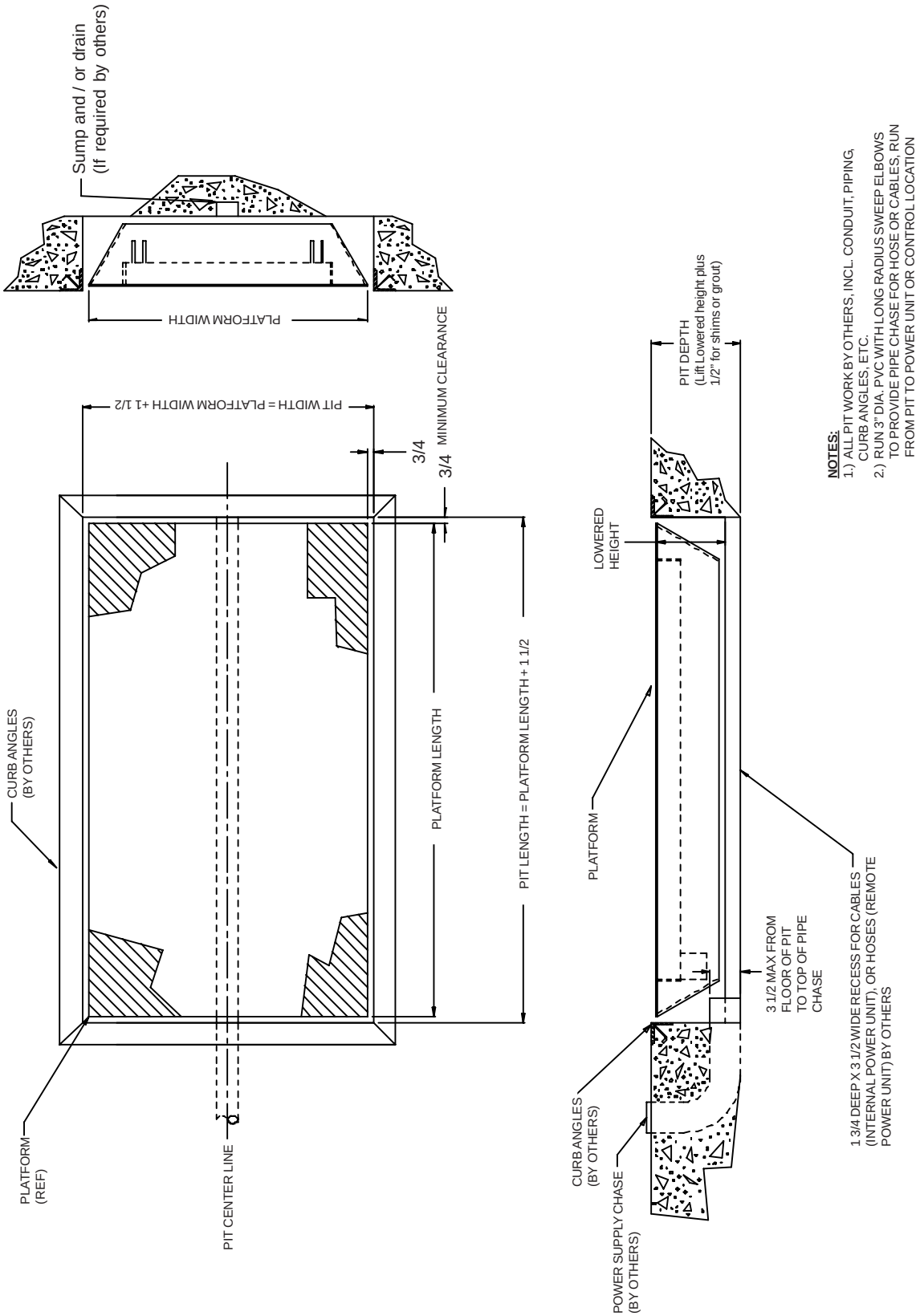
INSTALLATION OF ANCHOR BOLTS

1. Position lift according to above instructions. Drill holes in concrete the same diameter as anchor bolts, using anchor clip holes as guides. Drill holes sufficiently deep.
2. With nut and washer on anchor bolts, drive anchor bolts into holes so that a minimum of six to seven threads are below the top of the anchor clips.
3. Tighten the nuts while making sure enough force is used to spread anchor bolt wedges. Use three or four turns past finger-tightening as a guide.
4. After the scissor lift has been aligned, leveled and shimmed, and all anchor bolts installed, pour 1 in. of grout under the entire base frame. Tighten nuts or anchor bolts after the grout has set and cured. Run pneumatic hose or electrical cord through the conduit in the pit wall. Replace the platform. See Pit Layout Drawing.

Figure 2



PIT LAYOUT DRAWING



METHOD OF OPERATION

The control valve controls the flow of air to the air actuator. As the actuator is pressurized, the scissor legs are forced apart causing the table top to rise. As air is released from the bag, the legs collapse and the top is lowered.

CAUTION!

Do Not maintain the control valve in the open position if the lift does not move or it has reached its up or down limits. Damage to the pneumatic system may result.

1. Connect clean, dry shop air (minimum 80 psi, maximum 100 psi, 15 cfm) to the open port on the pedestal mounted control valve. Test all air connections for leaks and repair as required.

2. To lift the unit, activate the hand control valve to the up position. Hold the valve open until the desired height is reached or until the lift reaches it's positive up stops. Release the valve. The lift will remain at this position until the hand valve is activated again.

3. Lower the lift by activating the hand valve to the down position. Hold the valve open until the desired height is reached or until the lift reaches it's fully lowered position. Release the valve.

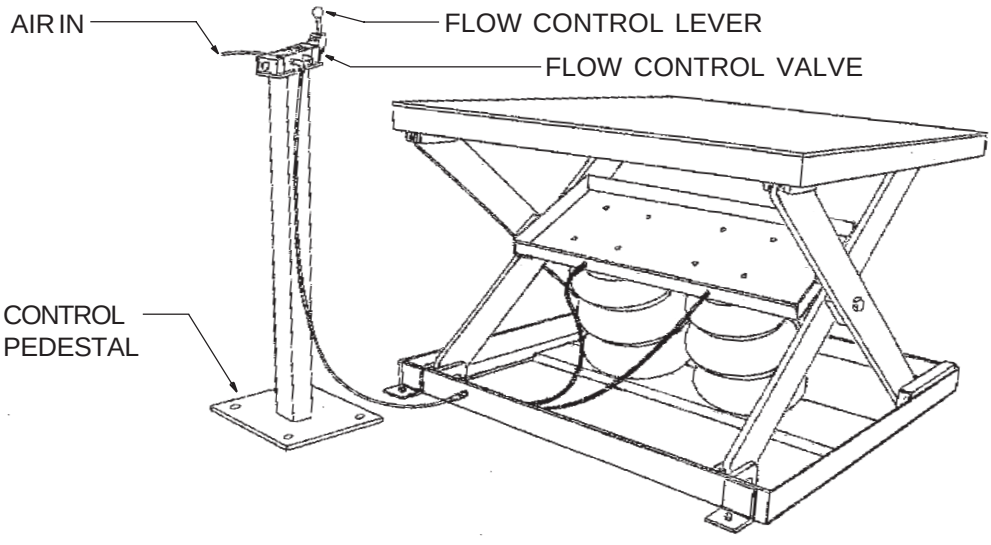
CAUTION!

A) Do not operate the lift until it is fastened to the floor, see Installation Instructions.

B) Do not exceed the rated load capacity.

C) Load the lift only in the fully lowered position.

D) Do not place hands or feet underneath the skirts or table / tilt tops.



GENERAL INFORMATION

End and Side Loading - Reduce the lift end and side placing capacities by 2% for every inch added to the standard minimum platform length or width. Reduce the lift end or side loading capacities by 33% if loads are going to be rolled onto the platform when the lift is other than fully lowered.

Technical - Speed and capacity on an air spring actuated lift are affected by plant air pressure (PSI) and standard cubic feet/minute (SCFM). SCFM is a function of compressor capacity. Plant air pressure is normally 100 PSI while standard cubic feet/minute should have 15 SCFM capabilities (approx. 4 HP air compressor minimum). Increasing SCFM will increase lift speed. Increasing PSI will increase capacity and/or lift speed.

Know the capacity of your equipment. Center your load on the lift at all times. The equipment design is for balanced centered loads. If field additions are made to the lift, reduce the capacity of the unit by the equipment added.

GENERAL MAINTENANCE NOTES

1. Always remember that this is a piece of machinery with large moving parts that can seriously hurt you. Read and understand this manual before attempting any maintenance on the lifts.

2. Always use safety maintenance bars when servicing or inspecting any pneumatic lift. After the safety bars are in place, remove the system air pressure by using the control lever. Never reach under a lift unless it is properly shored or blocked.

3. When using the safety supports, adhere to the following rules:

   A. Be sure there is no load on the platform.

   B. Be sure the safety support is properly engaged.

   C. Hold the down pedal an extra 10 seconds when lowering onto the safety support to be sure that all the weight of the lift is on the support.

   D. Disconnect and tag the unit to prevent accidental movement of the lift by other personnel.

   E. Spend as little time as possible under the lift.

4. Use only replacement parts recommended by the manufacturer.

5. Do not let the equipment stay in disrepair; fix little problems while they are little problems or some of them may get very severe very quickly.

6. Inspect the equipment on a regular schedule, preferably monthly.

7. Never work on the air systems unless the unit is fully lowered or properly sitting on a safety support.

8. Never apply a load to the equipment unless the base is continuously supported.

9. Oversize platforms can have a considerable overhang of the platform clevis pins, and as the platform is hinged on one end and free at the other, this may create a teeter-totter. In addition to the normal end load derating of 2% per additional platform inch, care should be taken not to overload the clevis end of the platform to the extent that the opposite (roller) end of the platform is able to tilt upward, possibly spilling the load.

10. Never expect to hold a leg assembly by simply lifting one end of a platform:

    A. The roller end of most lifts is not gibbed or captured in any way, so lifting on the roller end simply tilts the platform.

    B. Even if you raise the clevis end of the platform, if the base frame is not firmly lagged to the ground or held down by some other means, the legs will come up with the platform in a spongy and unpredictable manner and could cause personal injury.

    C. The only safe way to hold a lift's legs open other than the factory designed safety support, is to block between the clevis end of the platform and the base frame.

The routine maintenance of this equipment is minor and consists of periodic checks.

The equipment has been designed to safely provide many years of service if properly used and maintained.

***SAFETY WARNING*: REPLACE ALL SAFETY DEVICES, GUARDS, AND GUARDING PRIOR TO EQUIPMENT START UP.**

MAINTENANCE SCHEDULE:

WARNING:
To avoid personal injury, never go under the lift platform until the load is removed and the scissor mechanism is securely blocked in the "up" position to prevent accidental lowering of the lift.

Air flow to cylinder must be locked / tagged out.

For all pneumatic equipment, air pressure must be relieved before any maintenance or service is performed.

WEEKLY (40 hrs.)

- Inspect bushings for wear. Replace if necessary. (See Bushing Maintenance and Lubrication Instructions below.)
- With the lift unloaded and in it's fully raised position, check the pneumatic system for leaks.
  a) Check all fittings, lines and components for escaping air.
  b) In addition to listening for an audible hissing, perform a soap bubble test.
  c) If a leak exists, repair immediately.

The following checks should be performed with safety chocks in place.

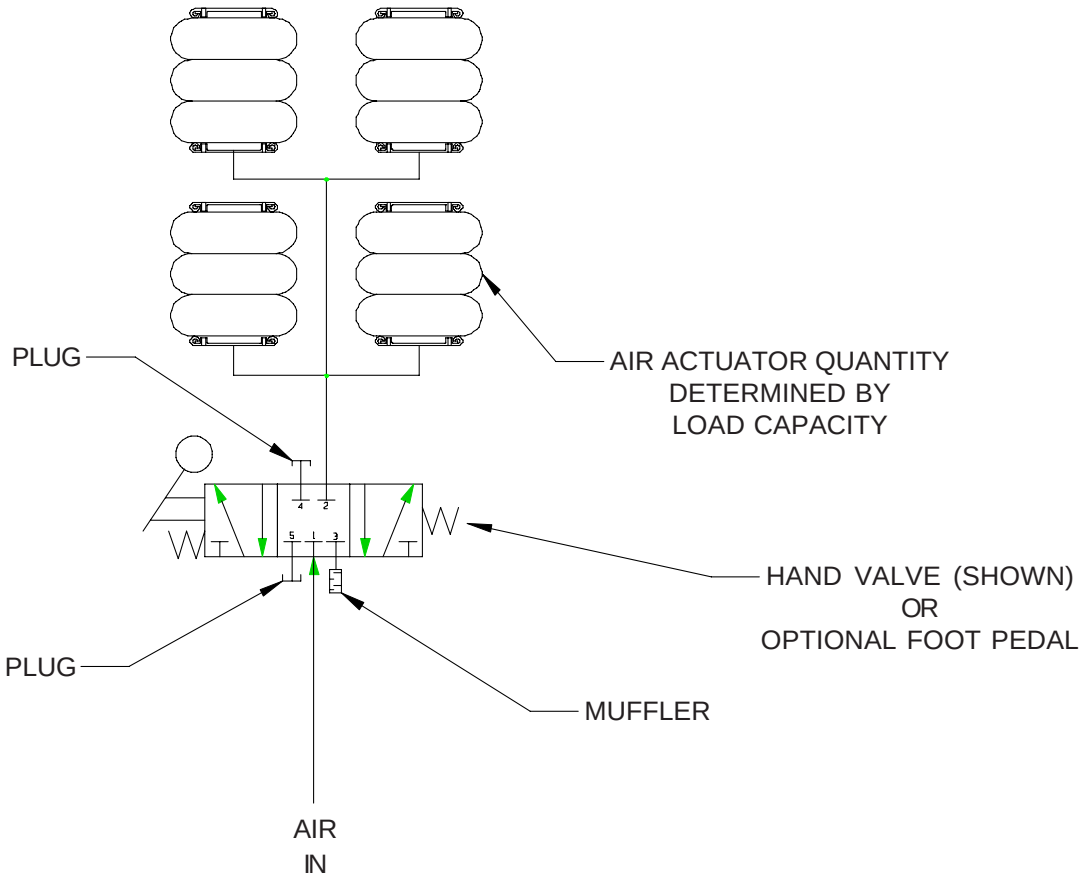
- Check Air Actuator for any signs of wear, chafing, nicks, splits, etc. Replace if necessary.
- Check rollers for signs of wear. Replace if damaged. Clear roller track of any debris.
- Tighten all visible nuts and bolts.
- Bearings on all lifts are permanently lubricated and *do not* require servicing.

Bushing Maintenance and Lubrication Instructions

The service life of a bushing is generally not predictable, since their failure will develop only as gradual wear, not as catastrophic failure, such as with a bearing. The need for inspection is largely proportional to the actual duty cycle, environment, and application. It is recommended that the bushings be inspected for wear at least once a week during the first few months of operation. It is likely that such frequent attention will prove unnecessary, but will result in establishing a realistic maintenance schedule based on experience. Replace bushings as necessary. Failure to do so will damage the scissor arms. It is also recommended that the bushings be inspected following a lengthy period of shutdown in severe environments.

SAFETY WARNING: ***REPLACE ALL SAFETY DEVICES, GUARDS, AND GUARDING PRIOR TO EQUIPMENT START UP.***

PNEUMATIC SCHEMATIC



TROUBLE SHOOTING

WARNING:
To avoid personal injury, never go under the lift platform until the load is removed and the scissor mechanism is securely blocked in the "up" position to prevent accidental lowering of the lift.

Air flow to cylinder must be locked / tagged out.

For all pneumatic equipment, air pressure must be relieved before any maintenance or service is performed.

TROUBLE SHOOTING MAINTENANCE:

- LIFT MOVING SLOWLY OR NOT AT ALL -

1. Check for obstructions.
2. Check for incoming air supply.
3. Check circuit for air leaks -- loose connection, damaged hose, etc. Listen for air escaping.
4. Is lift overloaded? Check capacity.
5. Check hand control valve and regulator for sticking or jamming -- repair or replace.

***SAFETY WARNING*: REPLACE ALL SAFETY DEVICES, GUARDS, AND GUARDING PRIOR TO EQUIPMENT START UP.**